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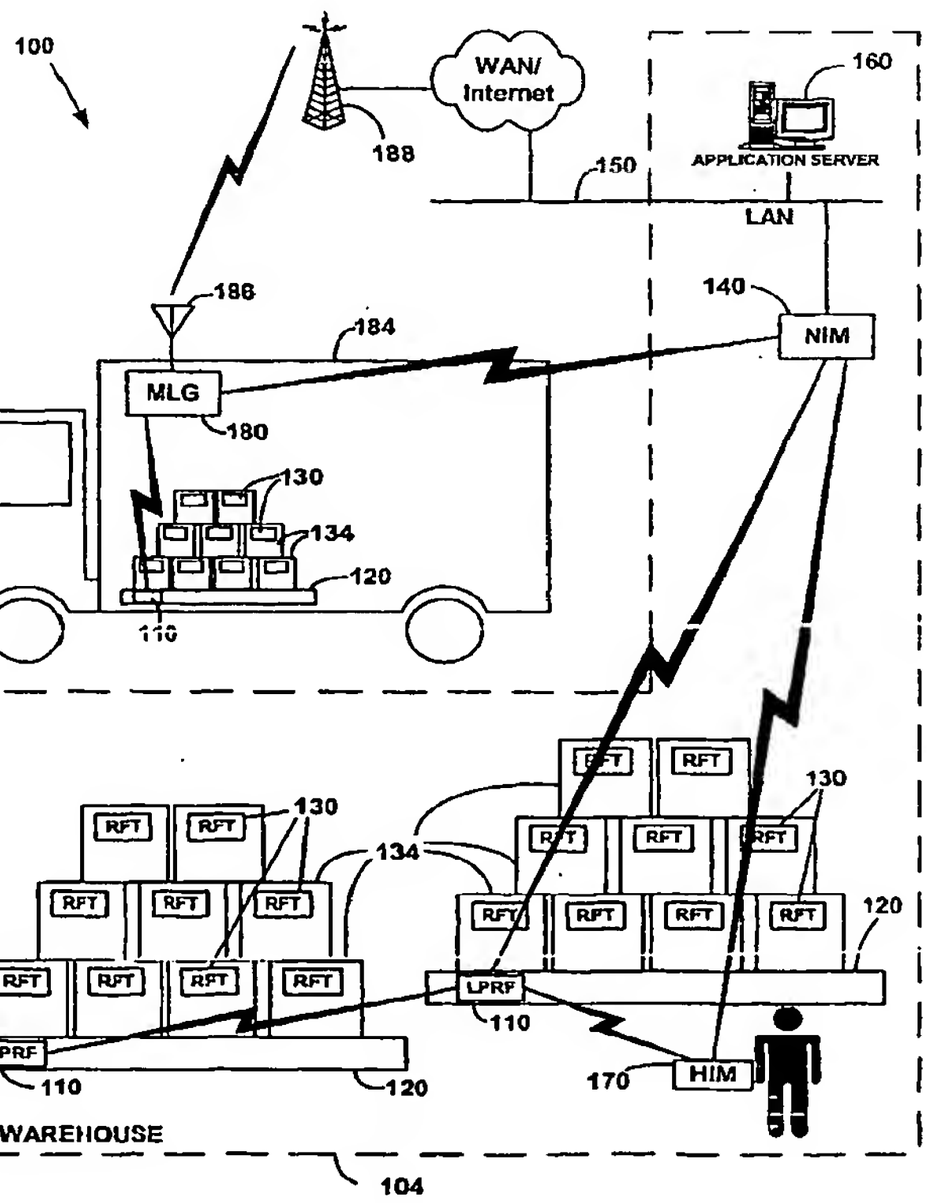
(54) Title: NETWORK FORMATION IN ASSET-TRACKING SYSTEM BASED ON ASSET CLASS



(57) Abstract: A plurality of wireless transceivers are associated with assets and each transceiver is assigned a class designation representative of an attribute, characteristic, relation, or behavior of its respective asset. Class based network formation routines are utilized to establish hierarchical networks based on asset classes, and the asset class is used by each transceiver to screen communications intended for receipt by transceivers of the same class. The overall wireless data communication network results in reduced power consumption and signal interference in asset-tracking applications. The transceivers may include a query handling routine for forming a dynamically distributed hierarchical database system. Furthermore, a recipient transceiver selectively receives communications from other local transceivers by transmitting at incrementally stronger power levels to successive groups of transceivers, and receiving reply transmissions only from a limited number of the transceivers that excludes those transceivers from which communications already are received.

WO 03/032501 A3

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